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STATE PUBLICATIONS



# NEVADA CLIMATE SUMMARY

Quarterly Summary

May, June, July, August, September, October, November

Volume 24, Numbers 3-4

## MAY-November CONDITIONS

By Cassandra Hansen

### *Western Nevada*

**May 2007** was very dry and warm throughout the area. The first week started dry and warm causing significant mountain snowmelt continuing from April. At the end of the first week a strong cold front moved into the area and brought wind, precipitation and much cooler temperatures. High temperatures dropped 25 to 30 degrees (from near 80 to low 50s) from the 1<sup>st</sup> to the 3<sup>rd</sup>. Six to eight inches of snow fell above 8000 feet in the Sierras on the 2<sup>nd</sup>. Another band of moisture moved through the area on the 3<sup>rd</sup> and 4<sup>th</sup>, bringing another 6 to 10 inches to the mountains, with 2 to 4 inches around Lake Tahoe. Light snow fell all the way down to the valley floors on the 4<sup>th</sup>, with up to 2 to 3 inches reported at some locations north of Reno (Reno AP reported a trace).

Most of the rest of May was warm and dry, with high pressure dominant. Some thunderstorms began developing late in the month, which dropped limited precipitation. The high temperature at Reno averaged 79.2 degrees, 6.6 degrees above normal, while the minimum averaged 47.6 degrees, 7.4 degrees above normal. This warm and dry month resulted in below average precipitation everywhere in the region. The Truckee Basin was closet to average at just 50%. the Owens River Basin was the driest at 8% of average precipitation. However, most basins were in the 20 to 30% of average range.

Overall, **June 2007** was very dry and warm throughout the area, with high pressure dominant. However, there were a few significant weather occurrences: On the 1<sup>st</sup>, lightning sparked several fires in the region, with a fire in the Walker-Coleville area of Mono Co. (Larson Fire) growing to about 700 acres by the night of June 5<sup>th</sup>. On the afternoon of the 2<sup>nd</sup>, slow moving thunderstorms caused very heavy rain and flash flooding in the Lockwood area of Storey County along Interstate 80. Up to eight inches of standing water (described as "small lakes" by a responding Storey Co. Fire Dept. chief) was reported on I80 near Lockwood, causing several accidents. The heaviest reported rainfall was 0.43" in 40 minutes 2 mi. E of Sparks, but rainfall in the Lockwood area was likely much heavier, possibly as much as an inch or more in one hour. On the 5<sup>th</sup>, very strong winds affected the region, with a gust of 80 mph reported by the Galena NV RAWS, with gusts over 60 mph reported at Gardnerville (63 mph) and Holbrook Jct. (64 mph).

On the afternoon of the 24<sup>th</sup> a fire near South Lake Tahoe (Angora Fire) started due to an illegal campfire. It consumed 3,100 picturesque acres, more than 254 residences, and 75 outbuildings by June 28<sup>th</sup>. The fire area extended from just south of Camp Richardson CA south to near Echo Peak, with an average width of about a mile. It remained just east of Fallen Leaf and Angora Lakes, but

extending eastward into the residential area along Upper Truckee Road. the fire was not 100% contained until July 2<sup>nd</sup>. the burned area in South Lake Tahoe may lead to significantly increased flows and possibly flash floods, debris and mudflows on the tributaries of the Upper Truckee River in this area during heavy rain and snowmelt runoff events over the next few years, with the next year being the most problematic. Most of the rest of June was warm and dry, with high pressure dominant.

**July 2007** continued the warm, dry trend of the past several months, with high pressure dominant. However, several thunderstorms caused some flash flooding, though only one flash flood (near Mammoth Lakes CA on the 25<sup>th</sup>) caused any significant damage. Notable weather occurrences during July 2007 included the following:

A heat wave impacted the region from the 3<sup>rd</sup> through 10<sup>th</sup>, with the hottest days on the 4<sup>th</sup>, 5<sup>th</sup>, and 9<sup>th</sup>. On the 3<sup>rd</sup>, temperatures were forecast to reach or exceed 105 degrees for the next 2 days throughout the valleys of western Nevada, with lows at or above 70. This prompted the rare issuance of a heat advisory for the 4<sup>th</sup> through 6<sup>th</sup> for most western Nevada valley areas. This included Mineral and southern Lyon Counties, western NV Basin and Range and the Greater Reno-Carson City-Minden area. The heat was caused by very strong high pressure over the southwestern U.S. which built north into the Great Basin.

**August 2007** continued the warm, dry trend of the past several months, with high pressure dominant. thunderstorms from the 27<sup>th</sup> through 30<sup>th</sup> caused minor flash flooding in Mono, Placer and Lassen Counties, CA, and Mineral and Washoe Counties, NV. Notable weather occurrences during August 2007 included the following:

On August 1<sup>st</sup>, deep monsoonal moisture moved into the western Great Basin and caused after noon thunderstorms with locally heavy downpours, especially over Mono and Mineral Counties. The region remained under high pressure with almost no rainfall from the 2<sup>nd</sup> through the 26<sup>th</sup>.

On the afternoon of the 27<sup>th</sup>, radar indicated very heavy rain in southern Mineral County in rural areas south of Hawthorne, and in Mono County near Bodie and near Devils Gate Summit west of U.S. Hwy 395. Bodie reported 1.09 inches of rain in 25 minutes, with minor flooding of small creeks and roads in the area.

On the 30<sup>th</sup>, strong thunderstorms caused very heavy rain in a line from Truckee north ward through eastern Lassen Co. and northern Washoe Co. Strong thunderstorms also caused heavy rain in northwest Lassen Co. Radar indicated 1 to 1.5 inches rain in southeast Lassen Co southeast of Honey Lake, in the Herlong, Doyle and Janesville vicinity. Similar amounts of rain were indicated in southeast Plumas County near Chilcoot. Later, radar indicated over 2 inches of rain in an hour in the Dixie Valley and

The high temperature at Reno in August averaged 93.2 degrees, 3.3 degrees above normal, while the minimum averaged 59.3 degrees, 9.4 degrees above normal. The mean for the month was 76.2 degrees, 4.9 degrees above the norm, and the warmest August on record at Reno, just beating out August 2001 (by 0.1 degree). The 3-month summer period of June, July and August 2007 set the record for the warmest summer on record at Reno, with an average of 76.

**September 2007** was warm and dry under high pressure. Around mid-month the high broke down, allowing several cold fronts to move into the area. As a result, the second half of September was cooler than normal and wetter than normal in some areas. Interestingly enough on September 19<sup>th</sup>: An unseasonably early cold low moved into the region, with gusty winds. On the 20<sup>th</sup>, strong easterly winds on Lake Tahoe caused many boats to come off their moorings near Tahoe City, and about 10 boats sunk.

The high temperature at Reno in September averaged 79.3 degrees, 2.4 degrees below normal, while the minimum averaged 47.8 degrees, 4.7 degrees above normal. The mean for the month was 63.6 degrees, 1.2 degrees above the norm.

Precipitation for the month of September can be summed up by saying it was a below average. However, the Owens Basin (168%), Central Great Basin (119%) and Mono Lake Basins (119%) received precipitation above normal.

**October 2007** precipitation was generally above normal north of the Truckee River Basin, and below normal to the south. The wettest basins were the Northern Great (195% of average) and Surprise Valley (181%), while the driest were the Mono Lake (21%) and Central Great Basins (24%).

Temperatures at Reno were average to below average during much of the first three weeks of October, and average to above average during the last 10 days. The October high temperature at Reno averaged 66.3 degrees, 3.6 degrees below normal, while the minimum averaged 38.7 degrees, 4.7 degrees above normal. The mean for the month was 52.5 degrees, 0.5 degrees above the norm. The warmest temperature for the month was 83 degrees on the 24th, while the coolest was 28 on the 21st. A record high minimum temperature was set on the 19<sup>th</sup> at 53 degrees.

**November 2007** was very dry and warmer than normal throughout most of the region. Only four stations had normal or above precipitation; three of these were in the lower Humboldt Basin (Pershing Co.). Bridgeport on the Walker Basin was the lone exception. The Lower Humboldt Basin was the only basin to end up above normal (112%) for the month; the Mono Lake Basin was driest at just 9%.

Precipitation was much below normal throughout the region, with the exception of the Lower Humboldt Basin, which had 112% of normal during the month. The Northern Great was a distant second place at 66%. The Mono Lake Basin was driest at 9%. Most stations and basins were in the very dry 15 to 40% of normal range. Bridgeport, CA was wettest compared to normal (145%/1.25"), while Rye Patch Dam, NV was second (125%/0.90").

### ***Eastern Nevada***

Overall, **May 2007** was a month full of above average temperatures and below average rainfall. There were several cold fronts that moved across the area. However, their main affect was to reduce

the temperature for several days. There was some precipitation produced, but overall, most areas stayed dry. Areas in northern Elko County still maintained a snow pack in the higher elevations on the north slopes during the latter part of the month.

While May was Elk's 17<sup>th</sup> warmest May on record, other areas of Nevada were closer to their normal temperatures even though they were above average. The city of Eureka set 3 high temperature records during the month with the highest temperature of 84 degrees being reached on May 16<sup>th</sup>. While there were above average temperatures, there were also several cold fronts that brought temperatures to below normal levels for several days at a time. Ely even reported a low temperature record on May 23<sup>rd</sup>.

**June 2007** began dry, with above-normal temperatures across the region and a few dry thunderstorms. However by late in week #1, a low pressure system moved into the Great Basin, triggering some shower activity over the entire region, accompanied by thunderstorms. A few more weather disturbances moved through northern Nevada throughout the remainder of the month to bring a few thunderstorms but very little in the way of precipitation. This series of weak disturbances tended to keep temperatures cycling from above-normal to normal. Central Nevada was completely dry during the last three weeks of June with only a few rumbles of thunder. There was still some snowfall early in the month down to approximately 5500 feet; however none of the three main reporting stations reported snow.

June 2007 ranked among the top 20 warmest June months on record at Elko and Ely with at least one record high equaled. While there were some well-above average temperatures, there were also several cold fronts that moved through to periodically reset temperatures to normal. Overnight lows were generally above normal.

**July 2007** was very hot and dry across the northwest HSA, trending to a little milder and wetter over eastern Nevada. After a dry beginning to the month for all areas, a monsoon flow developed to bring periodic moisture episodes to east central Nevada as well as to areas east of the

Ruby Mountains in northern Nevada. High pressure remained in control for the first week of July, keeping the region dry and allowing temperatures to soar well above the 100 degree mark in a widespread fashion. By week #2 monsoon moisture made its way into east central Nevada to create an environment conducive to thunderstorm development. During the third week of July a strong low pressure system moved through to temporarily end the monsoon push of moisture over eastern Nevada while at the same time bringing gusty winds and drier air to the region. The monsoon flow became very active during the last week of the month, especially east of the Ruby Mountains. Rainfall intensity associated with thunderstorm activity created difficulty for emergency responders in recent wildfire burn areas.

July 2007 ranked among the top 5 warmest months on record at all three main reporting stations. Record daily high temperature marks were set at all three stations as well. Very few daytime high temperatures below 90 degrees were reported while overnight low temperatures averaged 4 to 7 degrees above normal across the state.

**August 2007** was noted for record warmth and was very dry through out the HSA. However during the first few days of the month, deep monsoon moisture continued to flow across eastern Nevada where thunderstorms developed. Rainfall intensity associated with this continued surge of moisture August 1<sup>st</sup> through 3<sup>rd</sup>, culminating in scattered thunderstorm activity, created difficulty for emergency responders in recent wildfire burn areas. Flash flooding was verified in southeast Eureka County on August 1<sup>st</sup>. A Pacific low pressure system moved through the Great Basin region on the 4<sup>th</sup> and 5<sup>th</sup> to bring in drier air via breezy winds and served to end the strong monsoon flow over Nevada. Near mid-month the monsoon flow returned but was primarily confined east of the Ruby Mountains and east-central Nevada.

It was warmer than normal at all three of the main reporting stations...WMC, EKO and ELY. the average temperature at these stations for August ranged from 1.0 to 3.6 degrees above average and high temperatures alone ranged from 2.0 to 2.8 degrees above the norm. Record high temperatures

were set at Eureka airport / Diamond Valley, Ely and Tonopah. Average low temperatures for the three main reporting stations ranged from 0.0 to 4.9 degrees above normal.

**September 2007** consisted of high temperatures across northern Nevada early in September were in the 90s and lows generally in the 50s. By the end of the month, highs were around 70 with lows in the teens and 20s. Monthly averages fell within one degree above normal at EKO and ELY and nearly 2 degrees below normal at WMC in September. Record high temperatures were set on September 3<sup>rd</sup> at Eureka airport / Diamond Valley, Battle Mountain and Tonopah.

Precipitation this month was drier than normal at all three of the main reporting stations...WMC, EKO and ELY. Thunderstorms provided some rainfall at times over east-central Nevada early in the month with a weakening monsoon flow. However the axis of moisture continued to shift east over Utah and finally shut down the flow by the first week. An early "Fall" pattern developed that resulted in a series of moisture-laden storm systems from the Pacific Northwest to move through the region.

**October 2007** was colder than normal at all three main reporting stations in October. Low temperatures were relatively stable as compared to highly variable daytime temperatures. Lows were generally in the 20s throughout the month. Monthly averages at all three of the main reporting stations were a full 12 degrees lower than September.

October averages ranged from less than one degree below normal at EKO and ELY to greater than 2 degrees below normal at WMC. A similar pattern was noted in September, although EKO and ELY were within one degree above average in September. No new temperature records were set at any of the three main reporting stations. A record high temperature of 78 degrees was set on October 24<sup>th</sup> at the Eureka airport / Diamond Valley location. A record low temperature of 29 degrees was set at Tonopah (TPH) on October 7<sup>th</sup>.

Precipitation this month consisted of few embedded thunderstorms that moved through with the stronger systems. However most of the precipitation fell over

northern Nevada. Including four trace snow events, five new precipitation records were set in October. A daily maximum rainfall record of 0.30 inches was set at the Eureka Airport (P68) on the 5<sup>th</sup>, a record trace of snow was reported at EKO on the 6<sup>th</sup> and three record trace snowfalls were reported at WMC on October 1<sup>st</sup>, 5<sup>th</sup> and 20<sup>th</sup>. Water Year 2008 began with healthy precipitation percentages at WMC and EKO however ELY finished the month below 70% of normal.

**November 2007** was relatively warm and very dry across the Eastern portion of the state. High pressure dominated the weather pattern for the entire first week, creating a dry regime. A couple days into week #2, a cold front moved through to provide some accumulating snow for the higher elevations of northern Elko County, followed by several days of unsettled weather over northern Nevada.

EKO and ELY managed to finish November with above-average temperatures. Lows were generally in the teens and 20s for the first three weeks while daytime highs averaged out in the 50s. During the final week of the month, a strong, dry, northerly flow developed, causing low temperatures across much of the Eastern State.

November 2007 was the second month in succession that it was drier than normal at ELY. In fact, it was one of the driest Novembers on record at that location. After a robust start to the water year last month at WMC and EKO, November was drier than normal at these two stations as well. Let's hope December provides ample precipitation!

### ***Southern Nevada***

**May 2007** was another month where ASOS and COOP stations reported well below normal precipitation. For the 2006-2007 water year Kingman, Bishop and Daggett are at 18-29 percent of normal. Las Vegas reported well above normal precipitation back in October so the 46 percent of normal is an anomaly. Between January 1 and May 31, Las Vegas has reported 0.30 of an inch of rain. It makes it the 9<sup>th</sup> driest start to a year since records started in 1935. For the same time period, Bishop is in its 8<sup>th</sup> driest beginning to a year, while Daggett and Needles are experiencing their 5<sup>th</sup> driest start. Severe to extreme drought conditions exist and are impacting agricultural and hydrologic interests across the Southern Great Basin and Mojave Desert. The lake elevation at Lake Mead fell 5 feet in May and ended the month at 1115.89 feet. The lake will continue to fall through the remainder of the water year with USBR estimates of an elevation around 1110 feet at the end of September. If well below normal runoff in the Colorado Basin continues through the 2007-2008 water year the lake elevation will be near levels not seen since the early 1960's with the filling of Lake Powell and during the drought in the mid 1950's. Stream flows along the Meadow Valley Wash, Muddy River and Virgin River in Southern Nevada and the Big Sandy River in Northwest Arizona were well below normal.

**June 2007** was dominated by warm and dry weather. Severe to extreme drought conditions exist and are impacting agricultural and hydrologic interests across the Southern Great Basin and Mojave Desert. Stream flows along the Meadow Valley Wash, Muddy River and Virgin River in Southern Nevada and the Big Sandy River in Northwest Arizona were well below normal.

The first half of **July 2007** was characterized by very hot and dry conditions. There were five consecutive days of Excessive Heat Warnings issued between July 3 and 7. The Las Vegas temperatures peaked at 116 on July 5, while at Death Valley 129 degrees was reported on July 6.

Monsoon moisture rolled in between July 21 and 31 with scattered thunderstorms producing heavy rain over Northwest Arizona, Eastern San Bernardino and Clark counties. On the evening of July 24 an

isolated thunderstorm with heavy rain northwest of Kingman lead to Flash Flooding of normally dry washes in Golden Valley. Two adult males died while trying to cross a flooded road. A Mohave County Flood Control automated stream gage on the Sacramento Wash at State Route 68 reported a rise of 4 feet near the time of the incident. Heavy rains in the California Wash Basin in Northeast Clark County on the evening of July 27 produced a rise of 4-5 feet near Moapa. Water moved into the Muddy River and lead to flooding of low water crossing in Logandale and Overton through July 28.

Deep monsoon moisture carried over into early **August 2007** and on August 1 an upper level disturbance moving north across southern Nevada initiated heavy rainfall across Southern Nevada, Northwest Arizona and Southwest Utah. Flash flooding occurred in Las Vegas as areas in the southwest Las Vegas reported between 1.50 and 2.00 inches between 9am and noon. The heavy rainfall increased stream flows in the Virgin River basins and brought the threat of flooding to the city of Mesquite Wednesday, August 2. No flooding was reported but the increased stream flows carried lots of debris down the river. Our climatological break in the monsoon occurred during the middle of the month where a dry southwest flow swept the moisture east into Arizona. By the 26 and 27, moisture from Hurricane Dean circulated around the western periphery of the southwest U.S. high and into the southern Great Basin and Mojave Desert. Flash flooding occurred in Las Vegas in the early morning hours of August 27 as isolated to scattered thunderstorms developed across the area.

**September 2007** temperatures were slightly above normal, while precipitation varied but for the most part was normal to above normal. Most of the precipitation fell on September 21-22 as a very strong area of low pressure moved across the Mojave Desert and Southern Great Basin. On September 21, a 40-60 mile wide band of light to occasional moderate rain remained nearly stationary across central San Bernardino, southeast Inyo, southern Nye and western Clark counties.

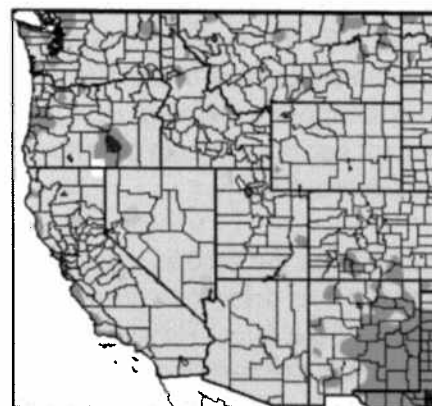
In the Spring Mountains west of Las Vegas two COOP stations reported monthly rainfall around 7.0 to 8.0 inches. The snow level was above 10,500 feet

so snow fell only on the highest peaks. As the low weakened and moved inland rainfall spread north and east across the remainder of the southern Nevada and northwest Arizona on September 22. Only minor flooding was reported in central San Bernardino County.

**October 2007** temperatures were at or slightly above normal. There was a significant wind event on October 20 when McCarran International Airport reported a peak wind gust of 62 mph. Stream flows along the Meadow Valley Wash, Muddy River and Virgin River in Southern Nevada and the Big Sandy River in Northwest Arizona were well below normal.

## Departure from Normal Temperature

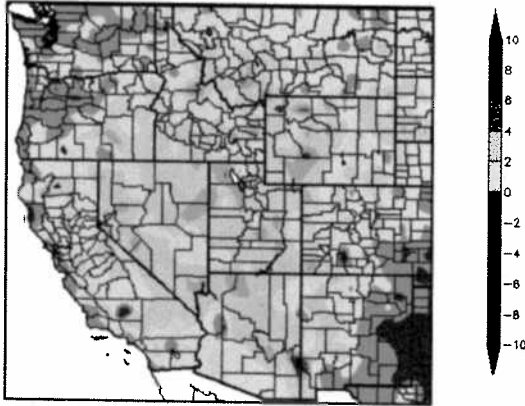
Departure from Normal Temperature (F)  
5/1/2007 – 5/31/2007



Generated 8/3/2007 at HPRDC using provisional data.

NOAA Regional Climate Center

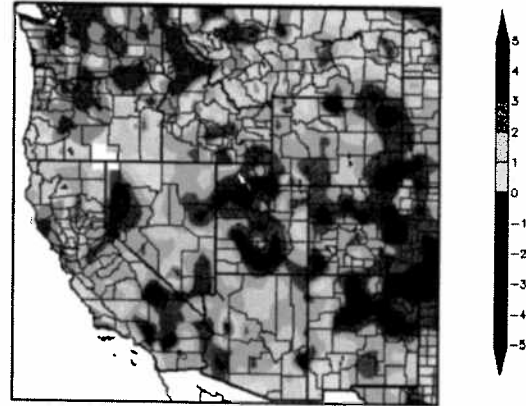
Departure from Normal Temperature (F)  
6/1/2007 – 6/30/2007



Generated 8/3/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)  
8/1/2007 – 8/31/2007

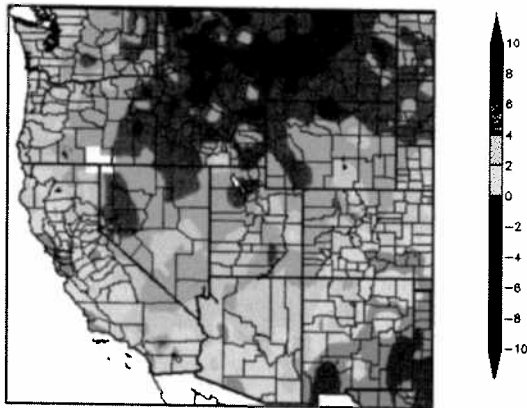


Generated 9/20/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

## Departure from Normal Precipitation

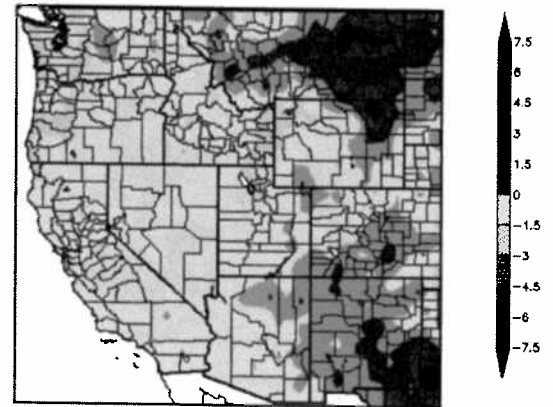
Departure from Normal Temperature (F)  
7/1/2007 – 7/31/2007



Generated 8/10/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

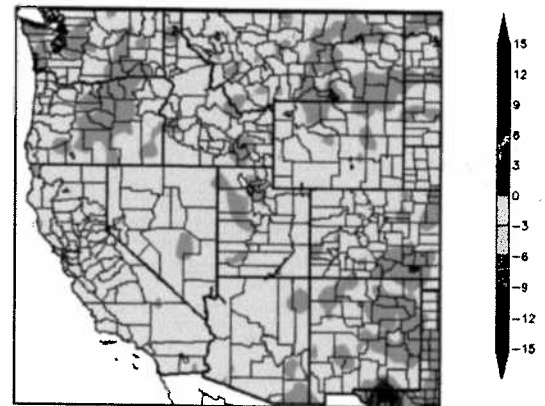
Departure from Normal Precipitation (in)  
5/1/2007 – 5/31/2007



Generated 8/3/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
6/1/2007 – 6/30/2007

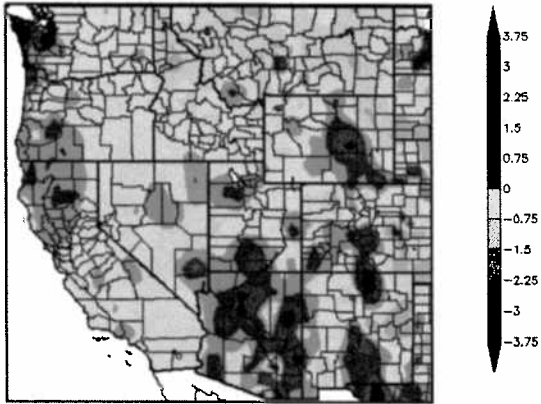


Generated 8/3/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers



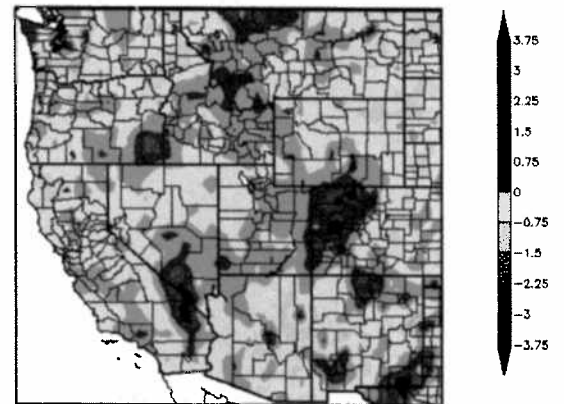
Departure from Normal Precipitation (in)  
7/1/2007 - 7/31/2007



Generated 8/10/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

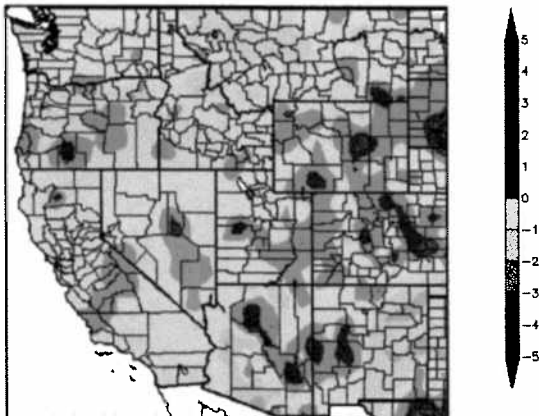
Departure from Normal Precipitation (in)  
9/1/2007 - 9/30/2007



Generated 12/11/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

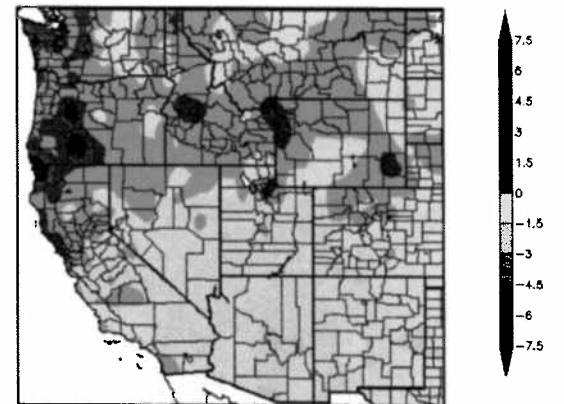
Departure from Normal Precipitation (in)  
8/1/2007 - 8/31/2007



Generated 9/20/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

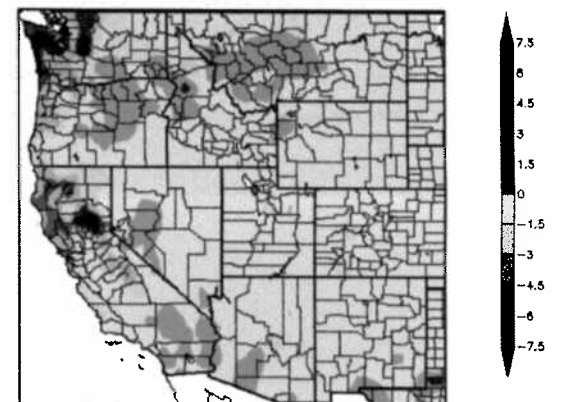
Departure from Normal Precipitation (in)  
10/1/2007 - 10/31/2007



Generated 12/12/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Precipitation (in)  
11/1/2007 - 11/30/2007



Generated 12/12/2007 at HPRCC using provisional data.

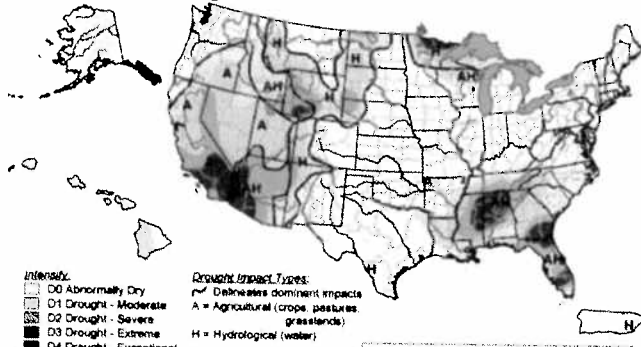
NOAA Regional Climate Centers



# DROUGHT OUTLOOK

## U.S. Drought Monitor

May 8, 2007  
Valid 8 a.m. EDT



**Intensity:**  
D0 Abnormally Dry  
D1 Drought - Moderate  
D2 Drought - Severe  
D3 Drought - Extreme  
D4 Drought - Exceptional

**Drought Impact Types:**  
A = Agricultural (crops, pastures, grasslands)  
H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>

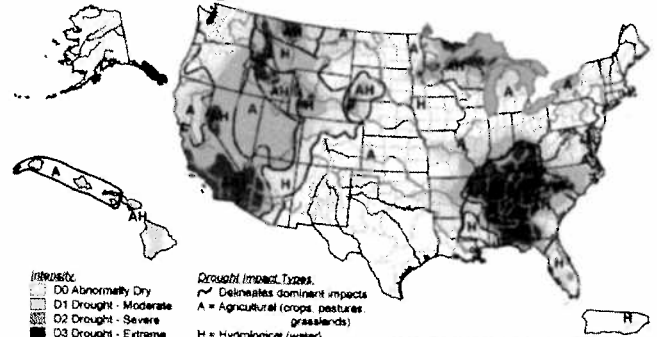


Released Thursday, May 10, 2007

Author: Brian Fuchs, National Drought Mitigation Center

## U.S. Drought Monitor

August 28, 2007  
Valid 8 a.m. EDT

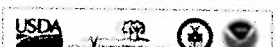


**Intensity:**  
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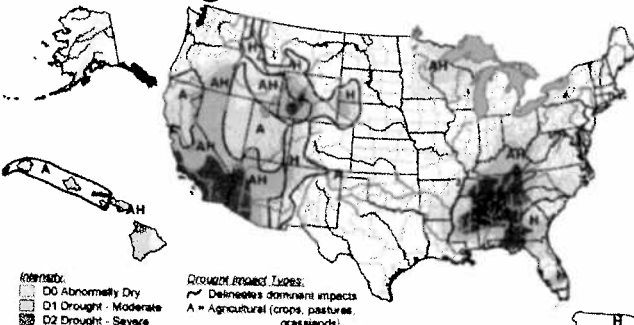
Released Thursday, August 30, 2007

Author: Thomas Heddinghaus, CPC/NOAA

Drought conditions have eased in southern and eastern Nevada, while central and northern drought stricken areas persist.

## U.S. Drought Monitor

June 26, 2007  
Valid 8 a.m. EDT



**Intensity:**  
D0 Abnormally Dry  
D1 Drought - Moderate  
D2 Drought - Severe  
D3 Drought - Extreme  
D4 Drought - Exceptional

**Drought Impact Types:**  
A = Agricultural (crops, pastures, grasslands)  
H = Hydrological (water)

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<http://drought.unl.edu/dm>

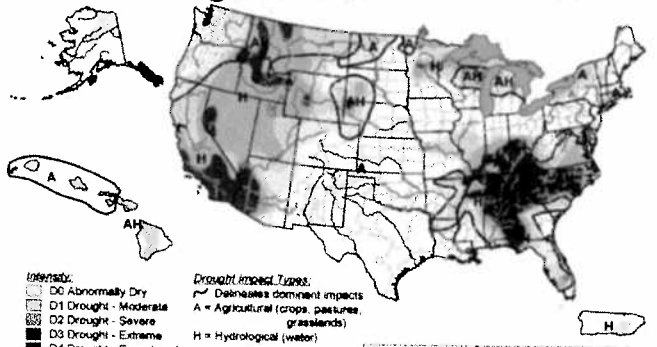


Released Thursday, June 28, 2007

Author: Douglas Le Conte, CPC/NOAA

## U.S. Drought Monitor

September 25, 2007  
Valid 8 a.m. EDT

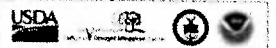


**Intensity:**  
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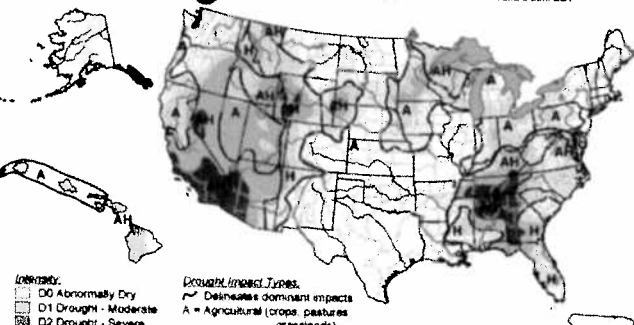


Released Thursday, September 27, 2007

Author: David Mikus, JAW/CPC/NOAA

## U.S. Drought Monitor

July 24, 2007  
Valid 8 a.m. EDT



**Intensity:**  
D0 Abnormally Dry  
D1 Drought - Moderate  
D2 Drought - Severe  
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The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>

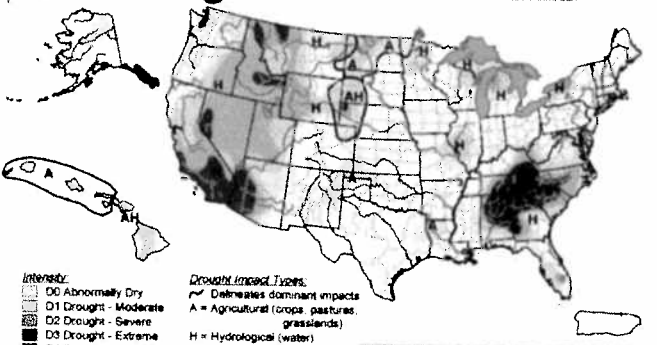


Released Thursday, July 26, 2007

Author: Richard Heim/Liz Love-Broski, NOAA/NESDIS/NCDC

## U.S. Drought Monitor

October 30, 2007  
Valid 8 a.m. EDT



**Intensity:**  
D0 Abnormally Dry  
D1 Drought - Moderate  
D2 Drought - Severe  
D3 Drought - Extreme  
D4 Drought - Exceptional

**Drought Impact Types:**  
A = Agricultural (crops, pastures, grasslands)  
H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

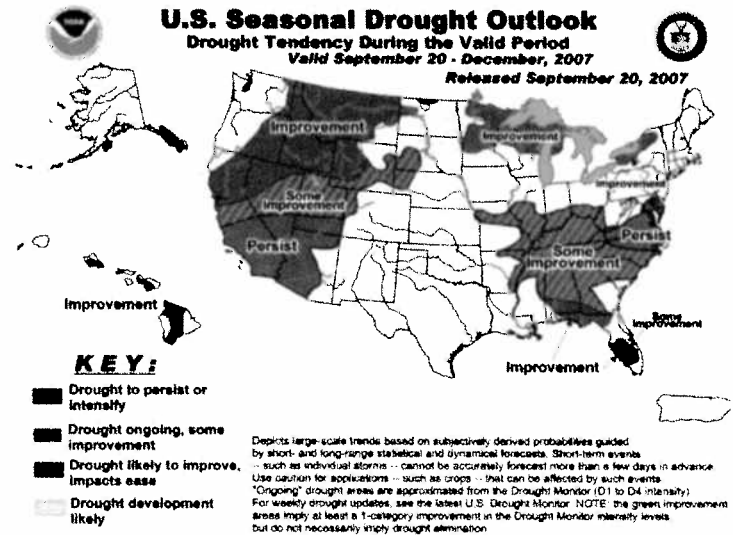
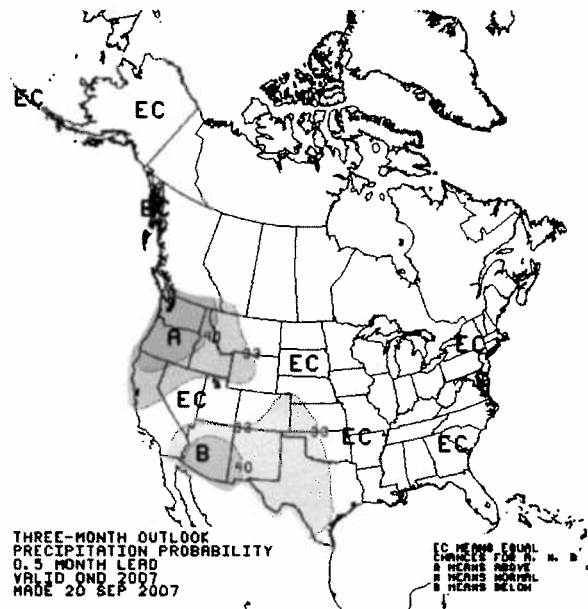
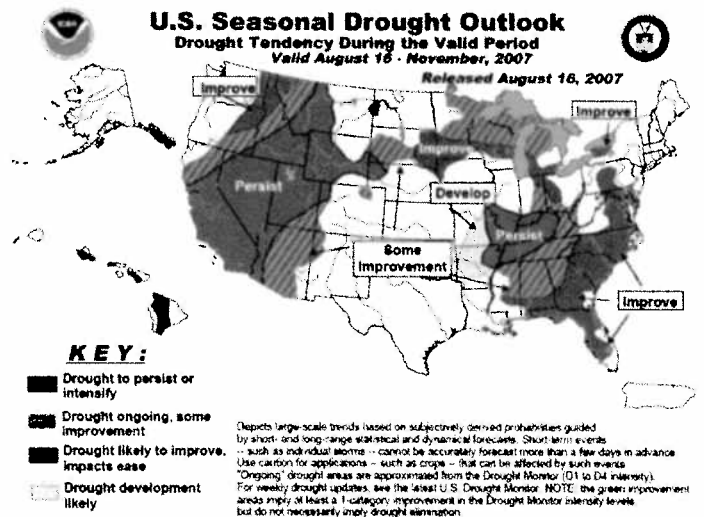
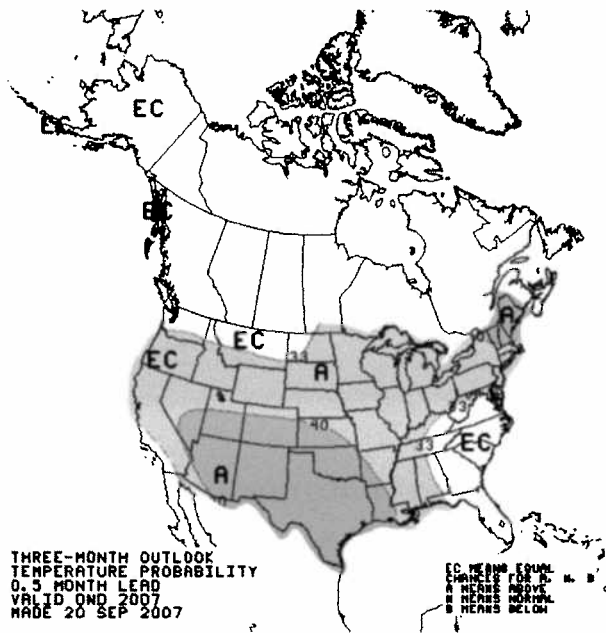
<http://drought.unl.edu/dm>



Released Thursday, November 1, 2007

Author: Douglas Le Conte, CPC/NOAA

**Official Seasonal Forecast**  
**October-November-December 2007**  
**From Climate Prediction Center**



**FEATURE ARTICLE:** *From Climate Prediction Center, National Centers for Environmental Prediction, NOAA/National Weather Service, Camp Springs, MD 20746-4304*

## **EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION**

**10 January 2008**

La Niña remained at moderate strength during December 2007, with below-average sea surface temperatures (SSTs) extending from 160°E to the South American coast. All of the Niño region indices remained cooler than -1.0°C, with the Niño-3.4 and Niño-3 indices persisting near -1.5°C. The upper-ocean heat content (average temperatures in the upper 300 m of the ocean) in the central and east-central equatorial Pacific remained below average, with temperatures ranging from 2°C to 5°C below average at thermocline depth. Consistent with these oceanic conditions, stronger-than-average low-level easterly winds and upper-level westerly winds continued across the central equatorial Pacific, convection remained suppressed throughout the central equatorial Pacific, and slightly enhanced convection covered the far western Pacific. Collectively, these oceanic and atmospheric conditions reflect a mature La Niña.

The recent SST forecasts (dynamical and statistical models) for the Niño 3.4 region indicate a continuation of La Niña conditions into Northern Hemisphere spring 2008, over half of the models predict a moderate strength La Niña to continue through February-April, followed by weaker La Niña conditions. Current atmospheric and oceanic conditions and recent trends are consistent with a likely continuation of La Niña into the Northern Hemisphere spring 2008.

Expected La Niña impacts during January-March include a continuation of above-average precipitation over Indonesia and below-average precipitation over the central and eastern equatorial Pacific. For the contiguous United States, potential impacts include above-average precipitation in the Northern Rockies, the Pacific Northwest, the Ohio and Tennessee Valleys, and parts of the Great Lakes region. Below-average precipitation is expected across the South, particularly in the southeastern states. Recent Madden-Julian Oscillation (MJO) activity has contributed to short-term fluctuations in low-level winds

and convection over the equatorial Pacific, which has acted to modify some of the typical La Niña impacts on a sub-seasonal timescale.

This discussion is a consolidated effort of the National Atmospheric and Oceanic Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site ([El Niño/La Niña Current Conditions and Expert Discussions](#)). Forecasts for the evolution of El Niño/La Niña are updated monthly in the [Forecast Forum](#) section of CPC's Climate Diagnostics Bulletin. The next ENSO Diagnostics Discussion is scheduled for 7 February 2008.

### STATISTICS FOR THE MONTH OF JULY 2007

	Extreme High	Day	Extreme Low	Day	Average High	Average Low	Average Monthly Temp	Precip	Snowfall
<b>Climate Division 1 (NW)</b>									
Cold Springs	103	3 <sup>rd</sup>	41	1 <sup>st</sup>	92.3	52.0	72.2	.01	-
Fernley	111	5 <sup>th</sup>	51	2 <sup>nd</sup>	100.5	58.6	79.4	.02	-
Flanigan	109	5 <sup>th</sup>	45	20 <sup>th</sup>	100.5	58.6	79.4	.02	-
Gardnerville	106	5 <sup>th</sup>	42	5 <sup>th</sup>	95.4	50.5	73.0	.04	-
Hay Creek	108	6 <sup>th</sup>	49	19 <sup>th</sup>	97.1	59.5	78.3	.06	-
Jacks Valley	101	5 <sup>th</sup>	54	4 <sup>th</sup>	92.8	60.3	76.6	.0	-
Lahontan Nat'l Fish Hatchery	99	5 <sup>th</sup>	52	21 <sup>st</sup>	92.0	59.0	75.5	-	-
Minden	104	5 <sup>th</sup>	47	3 <sup>rd</sup>	93.9	57.5	75.7	.01	-
Reno UNR	111	4 <sup>th</sup>	53	30 <sup>th</sup>	95.1	60.7	77.9	.02	-
Reno, 7s	104	5 <sup>th</sup>	50	20 <sup>th</sup>	96.2	59.2	78.0	.01	-
Sheridan Acres	102	5 <sup>th</sup>	48	20 <sup>th</sup>	93.9	57.8	75.9	.04	-
Wellington	104	5 <sup>th</sup>	48	19 <sup>th</sup>	95.4	58.4	76.9	.1	-
<b>Climate Division 2 (NE)</b>									
Jarbridge	100	6 <sup>th</sup>	45	2 <sup>nd</sup>	91.4	53.0	72.2	.69	-
Reese River	103	5 <sup>th</sup>	40	2 <sup>nd</sup>	94.9	49.1	72.0	.8	-
<b>Climate Division 3 (Central)</b>									
Gabbs	110	6 <sup>th</sup>	56	2 <sup>nd</sup>	101.5	63.0	82.3	.23	-
Marietta	108	5 <sup>th</sup>	54	2 <sup>nd</sup>	100.7	60.7	80.7	.19	-
Pioche - Lister Ranch	101	6 <sup>th</sup>	40	1 <sup>st</sup>	93.1	50.0	71.6	.25	-
Tonopah	105	5 <sup>th</sup>	51	25 <sup>th</sup>	95.8	61.4	78.6	.12	-

### STATISTICS FOR THE MONTH OF AUGUST 2007

	Extreme High	Day	Extreme Low	Day	Average High	Average Low	Average Monthly Temp	Total Precip (in)	Snowfall
<b>Climate Division 1 (NW)</b>									
Cold Springs	96	24 <sup>th</sup>	40	7 <sup>th</sup>	88.5	48.7	68.6	.25	-
Fernley	101	1 <sup>st</sup>	50	18 <sup>th</sup>	94.0	60.8	77.4	0	-
Flanigan	104	1 <sup>st</sup>	43	18 <sup>th</sup>	96.0	54.8	75.5	.06	-
Gardnerville	99	1 <sup>st</sup>	40	7 <sup>th</sup>	92.4	47.3	69.8	.22	-
Hay Creek	96	15 <sup>th</sup>	46	7 <sup>th</sup>	-	55.0	-	0	-
Jacks Valley	96	1 <sup>st</sup>	52	8 <sup>th</sup>	88.7	59.5	74.1	.08	-
Lahontan Nat'l Fish Hatchery	97	2 <sup>nd</sup>	49	7 <sup>th</sup>	91.5	56.7	74.1	0	-
Minden	97	1 <sup>st</sup>	44	7 <sup>th</sup>	90.6	55.0	72.8	.11	-
Mogul	98	14 <sup>th</sup>	48	17 <sup>th</sup>	92.0	55.8	73.9	.28	-
Reno UNR	100	24 <sup>th</sup>	49	18 <sup>th</sup>	91.4	57.4	74.4	.05	-
Reno, S7	97	1 <sup>st</sup>	48	7 <sup>th</sup>	90.9	55.9	-	-	-
Sheridan Acres	97	1 <sup>st</sup>	47	7 <sup>th</sup>	90.9	55.8	73.3	.45	-
Wellington	97	25 <sup>th</sup>	46	6 <sup>th</sup>	91.6	55.0	73.4	.6	-
<b>Climate Division 2 (NE)</b>									
Jarbridge	95	15 <sup>th</sup>	38	20 <sup>th</sup>	86.7	46.4	66.5	.06	-
Reese River	96	13 <sup>th</sup>	35	8 <sup>th</sup>	90.4	44.6	67.5	.09	-
<b>Climate Division 3 (Central)</b>									
Gabbs	101	6 <sup>th</sup>	52	19 <sup>th</sup>	95.1	58.6	76.9	.1	-
Marietta	101	21 <sup>st</sup>	52	6 <sup>th</sup>	95.3	57.7	76.5	.83	-
Pioche - Lister Ranch	95	1 <sup>st</sup>	39	21 <sup>st</sup>	88.5	50.3	69.4	2.12	-
Tonopah	98	16 <sup>th</sup>	50	7 <sup>th</sup>	92.4	57.4	74.9	.21	-

### STATISTICS FOR THE MONTH OF SEPTEMBER 2007

	Extreme High	Day	Extreme Low	Day	Average High	Average Low	Average Monthly Temp	Total Precip	
<b>Climate Division 1 (NW)</b>									
Cold Springs	92	2 <sup>nd</sup>	24	25 <sup>th</sup>	75.8	38.4	57.1	.31	-
Fernley	97	3 <sup>rd</sup>	29	30 <sup>th</sup>	82.8	47.7	65.2	.24	-
Flanigan	101	3 <sup>rd</sup>	29	30 <sup>th</sup>	81.8	44.5	63.1	.72	-
Gardnerville	95	3 <sup>rd</sup>	24	30 <sup>th</sup>	79.6	38.9	59.3	.44	-
Hay Creek*	96	3 <sup>rd</sup>	28	29 <sup>th</sup>	82.4	47.7	65.5	.4	-
Jacks Valley	92	3 <sup>rd</sup>	33	30 <sup>th</sup>	75.2	48.5	61.8	.56	-
Minden	95	2 <sup>nd</sup>	28	30 <sup>th</sup>	77.6	43.3	60.4	.37	-
Mogul	94	2 <sup>nd</sup>	27	29 <sup>th</sup>	77.7	45.0	61.3	.32	-
Reno, UNR	94	3 <sup>rd</sup>							-
Sheridan Acres	94	2 <sup>nd</sup>	30	29 <sup>th</sup>	77.8	44.8	61.3	.6	-
Reno UNR	94	3 <sup>rd</sup>	33	29 <sup>th</sup>	76.4	47.2	61.8	.3	-
Reno S7	95	2 <sup>nd</sup>	29	29 <sup>th</sup>	76.1	46.5	61.3	.31	
Wellington	96	2 <sup>nd</sup>	27	30 <sup>th</sup>	78.8	44.8	61.8	.12	-
<b>Climate Division 2 (NE)</b>									
Jarbidge	94	3 <sup>rd</sup>	25	29 <sup>th</sup>	73.4	38.0	55.7	1.32	-
Reese River	96	3 <sup>rd</sup>	15	30 <sup>th</sup>	77.5	33.8	55.7	.21	-
<b>Climate Division 3 (Central)</b>									
Gabbs	100	4 <sup>th</sup>	32	24 <sup>th</sup>	80.8	47.2	64.0	.22	-
Marietta	100	3 <sup>rd</sup>	28	30 <sup>th</sup>	83.1	45.6	64.3	.02	-
Pioche - Lister Ranch	94	3 <sup>rd</sup>	18	29 <sup>th</sup>	76.9	39.0	57.9	1.39	-
Tonopah	95	1 <sup>st</sup>	32	29 <sup>th</sup>	77.5	46.2	61.9	2.75	-

### STATISTICS FOR THE MONTH OF OCTOBER 2007

	Extreme High	Day	Extreme Low	Day	Average High	Average Low	Average Monthly Temp	Precip	Snowfall
<b>Climate Division 1 (NW)</b>									
Cold Springs	81	24 <sup>th</sup>	20	21 <sup>st</sup>	62.7	31.7	47.2	.7	-
Fernley	84	9 <sup>th</sup>	23	21 <sup>st</sup>	69.5	36.7	53.1	.22	-
Flanigan	82	25 <sup>th</sup>	26	21 <sup>st</sup>	66.6	35.8	51.4	38.4	-
Gardnerville	84	24 <sup>th</sup>	17	21 <sup>st</sup>	67.5	30.6	49.0	.48	-
Hay Creek	78	25 <sup>th</sup>	22	6 <sup>th</sup>	61.5	32.8	47.4	.65	-
Jacks Valley	78	24 <sup>th</sup>	31	7 <sup>th</sup>	63.4	39.5	51.3	.55	-
Lahontan Nat'l Fish Hatchery	85	13 <sup>th</sup>	26	22 <sup>nd</sup>	71.4	40.0	55.7	.12	-
Minden	83	24 <sup>th</sup>	21	21 <sup>st</sup>	65.7	34.8	50.2	.15	-
Mogul	77	24 <sup>th</sup>	23	21 <sup>st</sup>	63.2	36.9	50.0	.6	
Sheridan Acres	80	24 <sup>th</sup>	22	21 <sup>st</sup>	65.9	37.5	51.7	.33	-
Wellington	80	24 <sup>th</sup>	16	21 <sup>st</sup>	67.3	35.2	51.2	.08	-
<b>Climate Division 2 (NE)</b>									
Jarbidge	77	8 <sup>th</sup>	20	30 <sup>th</sup>	58.8	31.1	44.9	3.42	-
Reese River	83	24 <sup>th</sup>	8	21 <sup>st</sup>	65.9	26.1	46.0	.08	-
<b>Climate Division 3 (Central)</b>									
Gabbs	82	4 <sup>th</sup>	22	21 <sup>st</sup>	68.6	38.9	53.8	.18	-
Marietta	83	24 <sup>th</sup>	20	21 <sup>st</sup>	71.8	34.0	52.8	.6	
Pioche - Lister Ranch	76	26 <sup>th</sup>	16	22 <sup>nd</sup>	66.1	26.3	46.2	0	-

STATISTICS FOR THE MONTH OF NOVEMBER 2007									
	Extreme High	Day	Extreme Low	Day	Average High	Average Low	Average Monthly Temp	Precip	Snowfall
<b>Climate Division 1 (NW)</b>									
Cold Springs	70	8 <sup>th</sup>	6	24 <sup>th</sup>	55.7	24.6	40.2	.23	-
Fernley	73	8 <sup>th</sup>	11	24 <sup>th</sup>	58.4	28.6	43.5	.32	-
Flanigan	71	18 <sup>th</sup>	11	24 <sup>th</sup>	58.4	28.6	43.5	.45	-
Gardnerville	72	8 <sup>th</sup>	11	24 <sup>th</sup>	58.7	21.9	40.3	.37	-
Hay Creek*	67	9 <sup>th</sup>	13	24 <sup>th</sup>	54.8	29.4	42.0	.57	-
Jacks Valley	68	8 <sup>th</sup>	21	25 <sup>th</sup>	59.3	36.0	47.2	.25	-
Lahontan Nat'l Fish Hatchery	74	18 <sup>th</sup>	14	23 <sup>rd</sup>	62.1	29.9	46.0	.34	-
Mogul	67	8 <sup>th</sup>	14	23 <sup>rd</sup>	55.2	31.1	43.2	.21	-
Reno UNR	69	7 <sup>th</sup>	15	24 <sup>th</sup>	57.1	30.0	43.6	.16	-
Reno, S7	68	17 <sup>th</sup>	17	24 <sup>th</sup>	57.8	33.1	45.9	.32	-
Spanish Springs	71	7 <sup>th</sup>	12	23 <sup>rd</sup>	58.1	26.9	42.6	.35	-
Stillwater (Precip. only)	-	-	-	-	-	-	-	.65	-
Wellington	73	18 <sup>th</sup>	9	24 <sup>th</sup>	58.3	25.7	42.0	.62	-
<b>Climate Division 2 (NE)</b>									
Jarbridge	70	8 <sup>th</sup>	7	20 <sup>th</sup>	52.1	25.6	38.9	.82	-
Reese River	73	7 <sup>th</sup>	-1	24 <sup>th</sup>	56.5	17.0	36.7	.42	-
<b>Climate Division 3 (Central)</b>									
Gabbs	72	9 <sup>th</sup>	13	24 <sup>th</sup>	57.1	29.3	43.2	.45	-
Marietta	77	7 <sup>th</sup>	7	23 <sup>rd</sup>	63.5	24.2	43.8	.12	-
Pioche - Lister Ranch	71	7 <sup>th</sup>	0	27 <sup>th</sup>	60.1	17	38.7	0	-
Tonopah	72	7 <sup>th</sup>	11	22 <sup>nd</sup>	58.0	30.3	44.2	0	-

\* - Incomplete data      m - Missing data  
nr - Not Recorded

**References:** Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

US Drought Monitor: [www.drought.unl.edu/dm/monitor.html](http://www.drought.unl.edu/dm/monitor.html)

National Weather Service: <http://www.wrh.noaa.gov>

Global Solar UV Index: A Practical Guide: [http://www.unep.org/PDF/Solar\\_Index\\_Guide.pdf](http://www.unep.org/PDF/Solar_Index_Guide.pdf)

NOAA: <http://www.publicaffairs.noaa.gov>